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Effective Date: March 1, 2002
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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT No. WA-000298-4

State of Washington
DEPARTMENT OF ECOLOGY
Olympia, Washington 98504-7600

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1251 et seq.

Tosco Corporation a subsidiary of Phillips Petroleum Company
Phillips 66 Company Ferndale Refinery
P. O. Box 8
Ferndale, Washington 98248

<u>Facility Location:</u> 3901 Unick Road Ferndale, Washington	<u>Receiving Water:</u> Outfall 001 – Strait of Georgia Outfall 002 – Unnamed tributary of Lummi Bay
<u>Water Body I.D. No.:</u> Outfall 001: WA-01-0010	<u>Discharge Location:</u> - Outfall # 001 Latitude: 48° 49' 36" N Longitude: 122° 42' 57" W
<u>Watercourse I.D. No.:</u> Outfall 002: Unnamed tributary – AT56DW Puget Sound – 390KRD	<u>Discharge Location:</u> - Outfall # 002 Latitude: 48° 49' 11" N Longitude: 122° 41' 03" W
<u>Industry Type:</u> Petroleum Refinery	

is authorized to discharge in accordance with the special and general conditions, which follow.

Carol Kraege, P.E.
Industrial Section Manager
Solid Waste and Financial Assistance Program
Washington State Department of Ecology

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Refer to the Special and General Conditions of this permit for additional submittal requirements.

Permit Section	Submittal	Frequency	First Submittal Date
S3.A	Discharge Monitoring Report	Monthly	March 15, 2002
S3.E	Noncompliance Notification	As necessary	
S3.F	Spill Reporting System Description	Once	June 1, 2002
S3.F	Spill Notification	As necessary	
S3.G	Shellfish Protection	As necessary	
S4.A	Treatment System Operating Plan	2/permit cycle	September 1, 2002 and August 4, 2006.
S4.B	Reporting Bypasses	As necessary	
S4.D.1.A	Pollution Prevention Plan – Phase I	Once	March 1, 2003
S4.D.1.B	Pollution Prevention Plan – Phase II	Once	March 1, 2004
S4.D.7	Pollution Prevention Plan – Stormwater Inspections	2/year (wet and dry season)	
S4.D.8	Pollution Prevention Plan – Progress Report	Every 2 years after submittal of Phase I	March 1, 2005
S5.	Modification to Solid Waste Plan	As necessary	
S7.	Spill Plan	As necessary	
S8.A	Effluent Acute Toxicity Recharacterization Report	2/permit cycle	Summer 2006 and Winter 2005.
S9.A	Effluent Chronic Toxicity Recharacterization Report	6 times	In the third or fourth year or following FCCU startup, whichever is sooner.
S10.	Sediment Baseline Sampling and Analysis Plan	1/permit cycle	March 1, 2003
S10.	Sediment Chemistry Analyses Report	One year after Ecology approval of Plan	
S11.	Outfall Evaluation	1/permit cycle	August 4, 2006.

Permit Section	Submittal	Frequency	First Submittal Date
S13.	Herring embryo and larval toxicity Testing	2/per year in second, third, and fourth year of permit cycle	
S14.	Treatment Efficiency Study Plan	1/permit cycle	June 1, 2002
S14.	Treatment Efficiency Study – Existing Data	1/permit cycle	June 1, 2002
S14.	Treatment Efficiency Study – Sampling	6/permit cycle (3 dry weather and 3 wet weather)	By September 1, 2003
S14.	Treatment Efficiency Study – Engineering Report	1/permit cycle	March 1, 2004
S14.	Treatment Efficiency Study – Engineering Analysis	1/permit cycle	August 4, 2006.
S15.	Characterization Study for Human Health Criteria Report	1/permit cycle	August 4, 2006.
S16.	Ground Water Impact Study Plan	1/permit cycle	March 1, 2005
S16.	Ground Water Impact Study Report	1/permit cycle	August 4, 2006.
G1.	Notice of Change in Authorization	As necessary	
G4.	Permit Application for Substantive Changes to the Discharge	As necessary	
G5.	Engineering Report for Construction or Modification Activities	As necessary	
G7.	Application for Permit Renewal	1/permit cycle	August 4, 2006.
G8	Notice of Permit Transfer	As necessary	
G21	Notice of Planned Changes	As necessary	
G22.	Reporting Anticipated Non-compliance	As necessary	

SPECIAL CONDITIONS

S1. DISCHARGE LIMITATIONS

A. Basis of Limitations

The effluent limitations in the permit are based on guidelines published August 12, 1985 under 40 CFR Part 419 by the Environmental Protection Agency (EPA) for the cracking subcategory of petroleum refining. These limitations are based on terms of a settlement agreement dated April 17, 1984, between EPA and the Natural Resources Defense Council resolving litigation about the EPA guidelines. The August 12, 1985 guidelines establish Best Available Technology (BAT) and Best Conventional Technology (BCT) as equal to Best Practicable Technology (BPT) for all parameters except phenols and chromium. Each of the guidelines was evaluated for phenols and chromium and whichever was most stringent was applied.

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Water Quality Standards.

B. Process Wastewater Discharge: Outfall 001

All discharges and activities authorized by this permit shall be consistent with the terms and conditions of this permit.

The discharge of any of the following pollutants more frequently than, or at a level in excess of, that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit.

Beginning on the effective date of this permit and lasting through the expiration date, the Permittee is authorized to discharge process wastewater at the permitted location subject to complying with the following limitations.

These limitations are based on the existing and predicted composition of the crude feed stock at the time of issuance of this permit. If the quality of the feedstock changes significantly during the term of the permit, the permit will be reopened as necessary to modify the limitations after submittal and review of the modified process configuration information.

EFFLUENT LIMITATIONS: OUTFALL # 001 at a crude rate of 89,500 bbls/day (barrels per day)					
Parameter	Units	Average Monthly ^a	Maximum Daily ^b	Monitoring Frequency	Sample Type
Biochemical Oxygen Demand, 5-day	lbs/day	370	665	2 times/week ^d	24 hr composite
Chemical Oxygen Demand	lbs/day	2550	4930	7 times/week	24 hr composite
Total Suspended Solids	lbs/day	295	460	7 times/week	24 hr composite
Oil and Grease	lbs/day	110	200	7 times/week	Grab
Oil and Grease	mg/l	The concentration shall at no time exceed 15 mg/l, and shall not exceed 10 mg/l more than three days per month.			
Phenolic Compounds	lbs/day	2.2	4.94	1 times/week ^d	24 hr composite
Ammonia as N	lbs/day	225	494	1 times/week ^d	24 hr composite
Sulfide	lbs/day	2.0	4.3	1 time/week ^d	Grab
Total Chromium	lbs/day	5.9	10.0	1 time/6 months	24 hr composite
Hexavalent Chromium	lbs/day	0.37	0.81	1 time/6 months	24 hr composite
Fecal Coliform	Colonies/100 mls	200	400	2 times/week ^d	Grab
pH ^c	Daily minimum is equal to or greater than 6 and the daily maximum is less than or equal to 9.				

Phillips plans to construct a new Fluidized Catalytic Cracking Unit (FCCU) to replace the existing Thermoform Catalytic Cracking Unit (TCCU) sometime in 2003. This process may result in a higher cyanide concentration in the treated wastewater discharge. The following additional monitoring will apply when the FCCU is operational (Phillips will give advanced written notice to the Department when they plan startup of the FCCU):

ADDITIONAL EFFLUENT MONITORING: OUTFALL # 001 After FCCU becomes operational					
Parameter	Units	Average Monthly ^a	Maximum Daily ^b	Monitoring Frequency	Sample Type
Cyanide	ug/l	---	---	1 time/week ^e	Grab

^a The average monthly effluent limitation is defined as the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. Additional allocation may be permitted for stormwater and ballast water according to S1.C.

^b The maximum daily effluent limitation is defined as the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For other units of measurement, the daily discharge is the average measurement of the pollutant over the day. Additional allocation may be permitted for stormwater and ballast water according to S1.C.

^c Indicates the range of permitted values. When pH is continuously monitored, excursions between 5.0 and 6.0, or 9.0 and 10.0 shall not be considered violations provided no single excursion exceeds 60 minutes in length and total excursions do not exceed 7 hours and 30 minutes per month. Any excursions below 5.0 and above 10.0 are violations. The instantaneous maximum and minimum pH shall be reported monthly.

^d The monitoring frequencies for these parameters have been reduced as a result of consistent performance well below the technical limits. Should the treatment performance deteriorate the Department shall require an increase in the monitoring frequencies to the levels required in the previous permit. The Department will notify the Permittee by letter to increase monitoring frequency upon the Department's determination of deteriorating performance.

^e After one year, the monitoring frequency may be reduced or eliminated with approval from the Department. The Department will review the data and evaluate the reasonable potential to exceed the Marine Water Quality Standard for cyanide.

Parameter	Units	Additional Monitoring	Sample Type
Temperature	°C	Not a limit. Information shall be reported with the monthly DMR.	Continuous Recording
Final Effluent Flow	MGD	Not a limit. Information shall be reported with the monthly DMR.	Continuous Recording
Ballast Water Flow	gallons/day	Not a limit. Information shall be reported with the monthly DMR.	Daily
Feedstock Rate	bbls/day	Not a limit. Information shall be reported with the monthly DMR.	Daily
Rainfall	inches/day	Not a limit. Information shall be reported with the monthly DMR.	Daily

Parameter	Units	Additional Testing and Monitoring	Sample Type
Acute Toxicity Characterization – See Permit Condition S.8			
Chronic Toxicity Characterization – See Permit Condition S.9			
Sediment Monitoring – See Permit Condition S.10			
Herring Embryo and Larval Toxicity Testing – See Permit Condition S.13			
Treatment Efficiency Study and Engineering Report – See Permit Condition S.14			
Human Health Criteria Monitoring – See Permit Condition S.15			
Ground Water Impact Study – See Permit Condition S.16			

C. Ballast and Stormwater Allocation

The Permittee is authorized to discharge additional amounts of the following parameters based on stormwater and ballast water flow through Outfall No. 001. Ballast water volume shall be determined based on the water level in the beachhead tank. The cumulative monthly ballast water volume shall be reported with the DMR if the ballast allocation is not used.

If the ballast water allocation is used then the Permittee shall submit with the DMR a report showing the daily volume of ballast water released to the wastewater system for treatment. **During the months of June through October the permittee shall only be allowed to claim the stormwater allocation when it can be demonstrated that measurable rainfall has occurred at the refinery site in the previous seven calendar days.**

If rainfall data on-site is unavailable due to equipment malfunction, data from nearby rainfall gauging sites can be used. In the event that a large stormwater inventory must be released over a period of longer than seven days during the months of June through October, the Permittee can submit operational data supporting use of the stormwater allocation to the Department with the DMR.

Upon receipt of the supporting data, the Department will determine if the use of the stormwater allocation is appropriate and notify the Permittee by letter.

The stormwater flow rate shall be defined as the difference between total measured effluent through Outfall No. 001 and the sum of ballast water plus the average dry weather flow rate. **The average dry weather flow is hereby established as 1.25 MGD with an 89,500 bbls/day crude rate. Tosco will submit a new dry weather flow calculation to the Department after the new FCCU is operational.**

Parameter	Ballast Water Allocation: Outfall #001		Stormwater Allocation: Outfall #001	
	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
	Pounds/Million Gallons			
Biochemical Oxygen Demand (5-Day)	210	400	220	400
Chemical Oxygen Demand	2000	3900	1500	3000
Total Suspended Solids	170	260	180	280
Oil and Grease	67	126	67	130
Phenolic Compounds	N/A	N/A	1.4	2.9

D. Stormwater Discharge: Outfall 002

Beginning on the effective date of this permit, the Permittee shall monitor stormwater at Outfall 002 during a qualifying storm, defined as follows: minimum 0.1" rainfall volume, no maximum rainfall volume, and with a 24 hour antecedent dry period. Samples will be analyzed for the following parameters listed below at the specified frequencies.

Grab samples must be collected within the first 60 minutes after discharge begins to catch the "first flush" portion of the runoff event, or each drainage can be analyzed to determine to appropriate time period to achieve "first flush" capture.

The Permittee shall submit the results of the stormwater monitoring to the Department within 60 days after the sampling event.

STORMWATER: OUTFALL #002		
Parameter	Monitoring Frequency ^a	Sample Type
pH	Twice/year	Grab
Total Suspended Solids	Twice/year	Grab
Biochemical Oxygen Demand (5-day)	Twice/year	Grab
Chemical Oxygen Demand	Twice/year	Grab
Oil & Grease	Twice/year	Grab

^a The Department will review the results of the first and second year's stormwater monitoring and after implementation of pollution prevention stormwater projects. If no problems are noted, the monitoring frequency may be reduced to annually by written notification from the Department.

E. Mixing Zone Descriptions

The maximum boundaries of the mixing zones are defined as follows:

PROCESS WASTEWATER OUTFALL 001

Chronic Mixing Zone

WAC 173-201A-100(4)(b)(i) specifies mixing zones shall not extend in any horizontal direction from the discharge ports for a distance greater than 200 feet plus the depth of water over the discharge ports as measured during mean lower low water (MLLW). Given a MLLW water depth of 31 feet (9.5 meters) for the Permittee's outfall, the horizontal distance therefore is 231 feet (70.4 meters). The mixing zone is a circle with a radius of 231 feet (70.4 meters) measured from the center of each of the diffuser ports. The mixing zone extends from the seabed to the top of the water surface. Chronic aquatic life criteria and human health criteria must be met at the edge of the chronic zone.

Acute Mixing Zone

WAC 173-201A-100(8)(b) specifies that in estuarine waters a zone where acute criteria may be exceeded shall not extend beyond 10% of the distance established for the maximum or chronic zone as measured independently from the discharge ports.

The acute zone is a circle with a radius of 23 feet (7 meters) measured from the center of each discharge port. The mixing zone extends from the seabed to the top of the water surface. Acute aquatic life criteria must be met at the edge of the acute zone.

	<u>Available Dilution</u>
Acute Aquatic Life Criteria	30
Chronic Aquatic Life Criteria	135
Human Health Criteria - Carcinogen	135
Human Health Criteria - Non-carcinogen	135

S2. MONITORING REQUIREMENTS

A. Sampling and Analytical Procedures

Samples and measurements taken to meet the requirements of this permit shall be representative of the volume and nature of the monitored parameters, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions affecting effluent quality.

Sampling and analytical methods used to meet the monitoring requirements specified in this permit shall conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136 or to the latest revision of *Standard Methods for the Examination of Water and Wastewater* (APHA), unless otherwise specified in this permit or approved in writing by the Department of Ecology (Department).

B. Flow Measurement

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the quantity of monitored flows.

The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements are consistent with the accepted industry standard for that type of device. Frequency of calibration shall be in conformance with manufacturer's recommendations and at a minimum frequency of at least one calibration per year. Calibration records shall be maintained for at least three years.

C. Laboratory Accreditation

All monitoring data required by the Department shall be prepared by a laboratory registered or accredited under the provisions of, *Accreditation of Environmental Laboratories*, Chapter 173-50 WAC. Flow, temperature, settleable solids, pH, and internal process control parameters are exempt from this requirement. The pH shall also be accredited if the laboratory must otherwise be registered or accredited.

D. Composite Samples

After a portion of the daily sample is removed for the Permittee's analysis, the remainder, 2-3 gallons (minimum) shall be retained until 3:00 PM. The composite sample shall be kept refrigerated at 4° centigrade in the dark during collection and storage.

S3. REPORTING AND RECORDKEEPING REQUIREMENTS

The Permittee shall monitor and report in accordance with the following conditions. The falsification of information submitted to the Department shall constitute a violation of the terms and conditions of this permit.

A. Reporting

The first monitoring period begins on the effective date of the permit. Monitoring results shall be submitted monthly. Monitoring data obtained during each monitoring period shall be summarized, reported, and submitted on a Discharge Monitoring Report (DMR) form provided, or otherwise approved, by the Department.

In addition, a summary sheet, listing daily results for the parameters tabulated in Special Condition S1, including MDLs, and QLs (when applicable), shall be submitted to the Department. The DMR and summary sheet shall be received no later than the 15th day of the month following the completed monitoring period, unless otherwise specified in this permit. The DMR and summary sheet shall be sent to the Department of Ecology, Industrial Section, P. O. Box 47706, Olympia, Washington 98504-7706.

All laboratory reports providing data for organic and metal parameters shall include the following information: sampling date, sample location, date of analysis, parameter name, CAS number, analytical method/ number, method detection limit (MDL), laboratory practical quantitation limit (PQL), reporting units, and concentration detected.

DMR forms must be submitted monthly whether or not the facility was discharging. If there was no discharge during a given monitoring period, submit the form as required with the words "no discharge" entered in place of the monitoring results.

B. Records Retention

The Permittee shall retain records of all monitoring information for a minimum of three (3) years. Such information shall include all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by the Director.

C. Recording of Results

For each measurement or sample taken, the Permittee shall record the following information: (1) the date, exact place, method, and time of sampling or measurement; (2) the individual who performed the sampling or measurement; (3) the dates the analyses were performed; (4) the individual who performed the analyses; (5) the analytical techniques or methods used; and (6) the results of all analyses.

D. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by this permit using test procedures specified by Condition S2. of this permit, then the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Permittee's DMR.

E. Noncompliance Notification

In the event the Permittee is unable to comply with any of the terms and conditions of this permit due to any cause, the Permittee shall:

1. Immediately take action to stop, contain, and clean up unauthorized discharges or otherwise stop the noncompliance, correct the problem and, if applicable, repeat sampling and analysis of any noncompliance immediately and submit the results to the Department within thirty (30) days after becoming aware of the violation.
2. Immediately notify the Department of the failure to comply.
3. Submit a detailed written report to the Department within thirty (30) days (**five [5] days for upsets and bypasses**), unless requested earlier by the Department. The report shall contain a description of the noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

F. Spill Reporting and Notification

The Permittee shall prepare a description of the reporting system which will be used by the facility to alert responsible managers and legal authorities in the event of a spill or unplanned discharge of: 1) oil and petroleum products, 2) materials, when spilled or otherwise released into the environment, are designated Dangerous Waste (DW) or Extremely Hazardous Waste (EHW) by the procedures set forth in WAC 173-303-070, or 3) materials which may become pollutants or cause pollution upon reaching state waters.

The reporting system description shall be submitted to the Department by **June 1, 2002**.

The Permittee shall immediately notify the Department of any spills or unplanned discharges of the materials described above and in accordance with the facility's reporting system.

G. Reporting - Shellfish Protection

If an unauthorized sanitary system discharge, such as collection system overflows or plant bypasses has the potential to exceed the specific effluent limitations, the discharge shall be reported immediately to the Department of Ecology and the Department of Health, Shellfish Program. The Department of Ecology's Northwest Regional Office 24-hr number **425-649-7000** and the Department of Health's Shellfish 24-hr. number is **360-786-4183**.

S4. OPERATION AND MAINTENANCE

The Permittee shall, at all times, properly operate and maintain all facilities or systems of treatment and control (and related appurtenances) which are installed to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

A. Treatment System Operating Plan

An updated Treatment System Operating Plan (TSOP) shall be submitted to the Department by **September 1, 2002** and with the application for renewal 180 days prior to expiration of the permit (**August 4, 2007**). This plan shall be updated and submitted, as necessary, to include requirements for any major modification of the treatment system.

For the purposes of this NPDES permit, a TSOP is a concise summary of specifically defined elements of the O&M Manual. The TSOP shall not conflict with the O&M Manual and shall include the following information:

1. A baseline operating condition, which describes the operating parameters and procedures, used to meet the effluent limitations of Condition S1 at the production levels used in developing these limitations.
2. In the event production rates are below the baseline levels used to establish these limitations, the plan shall describe the operating procedures and conditions needed to maintain design treatment efficiency. The monitoring and reporting shall be described in the plan.
3. In the event of an upset, due to plant maintenance activities, severe stormwater events, start ups or shut downs, or other causes, the plan shall describe the operating procedures and conditions employed to mitigate the upset. The monitoring and reporting shall be described in the plan.
4. A description of any regularly scheduled maintenance or repair activities at the facility which would affect the volume or characteristics of the wastes discharged to the wastewater treatment system and a plan for monitoring and treating/controlling the discharge of maintenance-related materials (such as cleaners, degreasers, solvents, etc.).

The approved Operations and Maintenance Manual and TSOP shall be kept available at the permitted facility and all operators are responsible for being familiar with, and using, this manual.

B. Bypass Procedures

Bypass, which is the intentional diversion of waste streams from any portion of a treatment facility, is prohibited, and the Department may take enforcement action against a Permittee for bypass unless one of the following circumstances (1, 2, or 3) is applicable.

1. Bypass for Essential Maintenance without the Potential to Cause Violation of Permit Limits or Conditions.

Bypass is authorized if it is for essential maintenance and does not have the potential to cause violations of limitations or other conditions of this permit, or adversely impact public health as determined by the Department prior to the bypass. The Permittee shall submit prior notice, if possible, at least ten (10) days before the date of the bypass.

2. Bypass Which is Unavoidable, Unanticipated, and Results in Noncompliance of this Permit.

This bypass is permitted only if:

- a. Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.
 - b. There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment downtime (but not if adequate backup equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance), or transport of untreated wastes to another treatment facility.
 - c. The Department is properly notified of the bypass as required in condition S3.E of this permit.
3. Bypass which is Anticipated and has the Potential to Result in Noncompliance of this Permit.

The Permittee shall notify the Department at least thirty (30) days before the planned date of bypass.

The notice shall contain (1) a description of the bypass and its cause; (2) an analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing; (3) a cost-effectiveness analysis of alternatives including comparative resource damage assessment; (4) the minimum and maximum duration of bypass under each alternative; (5) a recommendation as to the preferred alternative for conducting the bypass; (6) the projected date of bypass initiation; (7) a statement of compliance with SEPA; (8) a request for modification of water quality standards as provided for in WAC 173-201A-110, if an exceedance of any water quality standard is anticipated; and (9) steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.

For probable construction bypasses, the need to bypass is to be identified as early in the planning process as possible. The analysis required above shall be considered during preparation of the engineering report or facilities plan and plans and specifications and shall be included to the extent practical. In cases where the probable need to bypass is determined early, continued analysis is necessary up to and including the construction period in an effort to minimize or eliminate the bypass.

The Department will consider the following prior to issuing an administrative order for this type of bypass:

- a. If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.
- b. If there are feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.
- c. If the bypass is planned and scheduled to minimize adverse effects on the public and the environment.

After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, the Department will approve or deny the request. The public shall be notified and given an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Approval of a request to bypass will be by administrative order issued by the Department under RCW 90.48.120.

C. Duty to Mitigate

The Permittee is required to take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

D. Pollution Prevention Plan

The Permittee shall continue to ensure proper operation and maintenance of the refinery process units and wastewater treatment system by following existing Standard Operating Procedures (SOPs) and Best Management Practices (BMPs). These procedures and other measures/facilities currently employed at the refinery to prevent or minimize the potential for release of pollutants to the wastewater treatment system, stormwater, and/or waters of the state shall be continued or maintained unless modified by the pollution prevention plan required below.

The Permittee shall develop a pollution prevention plan for sources of water pollutants. The objective of the pollution prevention plan is to identify pollution prevention opportunities and implement those opportunities that are technically and economically achievable.

1. Plan Development and Implementation

The Permittee shall develop, implement and comply with the pollution prevention plan in accordance with the following schedule:

- A. **By March 1, 2003**, the Permittee shall develop a pollution prevention plan that addresses the Phase I requirements of Permit Condition S.4.D.3. The plan shall be submitted to the Department for review and approval.
- B. **By March 1, 2004**, The Permittee shall develop Phase II of the pollution prevention plan as required in Permit Condition S.4.D.4 and submit it to the Department for review and approval.
- C. The Permittee shall implement selected pollution prevention opportunities according to the timeframes specified in the plan or any plan modifications thereof.

Guidance used in developing a pollution prevention plan shall include the document Stormwater Pollution Prevention Planning for Industrial Facilities published by the Department of Ecology, the 'Pollution Prevention and Best Management Practices' section of the Ecology Permit Writer's Manual (Chapter XII.), the methodologies of the Pollution Prevention Planning Guidance Manual for Chapter 173-307 WAC (Revised December 1996) -- Worksheets G and H, and other information provided by the Ecology Permit Manager. The Permittee will be expected to apply the methodologies from the existing guidance to cover other sources, pathways, or measures not covered within the strict scope of the WAC 173-307 guidance. Other information available to the Permittee may also be used in preparing the plan.

The approved pollution prevention plan and any modifications to the plan shall be followed throughout the term of the permit.

2. General Requirements

A. Plan Retention and Record Availability:

The pollution prevention plan shall be retained onsite or within reasonable access to the site. Staff training records shall be maintained onsite and be available for inspection.

B. Modifications:

The Permittee shall modify the pollution prevention plan whenever there is a change in design, construction, operation, or maintenance of the facility, which significantly increases the generation or potential generation of water pollutants or causes the pollution prevention plan to be less effective in controlling pollutants. The Permittee shall provide for implementation of any modifications to the pollution prevention plan in a timely manner. Modifications to the plan shall be submitted to the Department in the biennial report required in Permit Condition S.4.D.8.

3. Specific Requirements – Phase I

A. Policy Statement and Signature:

The pollution prevention plan shall include a policy statement articulating management and corporate support for the plan and a commitment to implement the plan and to continued pursuit of pollution prevention opportunities. The plan and all its modifications shall be signed in accordance with Permit Condition G1.

B. Employee Involvement, Training, and Awareness:

The pollution prevention plan shall include a description of personnel training and employee involvement programs that emphasize pollution prevention and solicit employee ideas about pollution prevention opportunities and other environmental issues.

C. Description of Current Pollution Prevention Activities:

The plan shall include a description of preventive measures and facilities already employed at the refinery to prevent, reduce, eliminate, or control releases of pollutants to influent wastewater streams, stormwater, and/or waters of the state.

D. Description of Potential Pollutants and Sources:

The pollution prevention plan shall include a detailed description of the processes or activities, which contribute or potentially contribute pollutants to influent wastewater streams having 30 gpm at the point where the wastewater stream enters the collection system, stormwater, groundwater and wetlands. Minor incidental wastestreams to stormwater, such as landscaping fertilizers, do not have to be included.

The plan shall identify the materials used, processed, stored, treated, or disposed at the facility and the pollutants that are generated or potentially generated or released. The level of detail should be sufficient to help identify and understand how and why materials are used and pollutants generated or released. Process flow diagrams and/or material input/output information shall be included on a process unit basis.

The Permittee shall include in the plan all materials which may become pollutants or cause pollution upon reaching state waters, including, but not limited to:

- 1) persistent bioaccumulative and toxic chemicals (PBTs),
- 2) oil and petroleum products,
- 3) materials which, when spilled or otherwise released into the environment, would be designated Dangerous Waste (DW) or Extremely Hazardous Waste (EHW) by the procedures set forth in WAC 173-303-070,
- 4) materials which, when discharged into the wastewater treatment system, "pass through" or cannot be treated by the wastewater treatment system,
- 5) materials which may result in acute toxicity in the effluent.

In determining which sources and pollutants to address in the plan, the Permittee shall use available sampling data, such as influent characterization data collected in the treatment efficiency study Permit Condition S.14, as well as knowledge of processes and materials, and available information on the relative toxicity or hazard of materials. Sources of PBTs shall be included in the analysis.

E. Identification, Evaluation, and Selection of Pollution Prevention Opportunities:

The plan shall identify pollution prevention opportunities and evaluate their technical (including safety considerations) and economic feasibility. Based upon this evaluation and other factors, the opportunities shall be prioritized. In ranking opportunities, the Permittee shall consider pollutant loading and toxicity and the potential to achieve the greatest reduction with respect to time and costs.

The Permittee shall concentrate on opportunities that reduce or eliminate PBTs, PAHs, priority pollutant metals, and diethanolamine (DEA) to influent and upstream flows to the oily water sewer. Solids and hydrocarbon loadings to the oily water sewer shall also be evaluated. Stormwater shall be evaluated for oil & grease and solids loading as well as toxics. The Permittee shall evaluate opportunities to eliminate or reduce pollutant loadings particularly to the stormwater Outfall 002.

The Permittee shall provide their rationale for how the pollution prevention opportunities are prioritized. In addition to technical and economical feasibility, other factors may influence ranking of opportunities and should be included in the discussion.

These factors may include capital projects planned or ongoing at the refinery that will provide a benefit to environmental media other than water, corresponding reduction in safety risks, etc. Projects that achieve that highest environmental benefit shall have greater priority.

4. Specific Requirements – Phase II

In Phase II of the plan, the Permittee shall provide a detailed analysis of technical and economical feasibility for the top ten pollution prevention opportunities (if more than ten opportunities were identified), as prioritized in the approved Phase I submittal of the plan.

In evaluating and selecting pollution prevention opportunities, the Permittee shall give preference first to those that eliminate, avoid, or reduce the generation of water pollutants, second to those that recycle or reuse the pollutants, and third to those that provide at-source or near-source treatment to remove pollutants or render them less toxic or harmful.

Opportunities determined to be technically and economically feasible will be considered as known, available, and reasonable and therefore are required to be selected and scheduled for implementation.

For each pollution prevention opportunity selected, the plan shall identify the process (es) or activities it affects, an estimate of the amount of pollutants reduced, and the environmental or other benefits that will be achieved.

The plan shall include a schedule for implementation of each selected opportunity. The Permittee is expected to establish reasonable priorities and schedules for implementation to achieve the greatest reduction in pollutant quantity and toxicity, as well as for management and fiscal necessity.

If a detailed analysis of technical and economical feasibility for any pollution prevention opportunity will take longer than the time allotted for developing Phase II of the plan, the Permittee shall include a schedule for completing the analysis in the Phase II plan submittal. The timeframe for implementing any opportunities scheduled for further evaluation and then selected shall be provided in the biennial report.

5. Considerations in Identifying, Evaluating, and Selecting Opportunities

- A. In identifying, evaluating, and selecting pollution prevention opportunities for implementation, the Permittee shall consider the following for any wastewater stream that represents 95 % of the Permittee's influent streams:

1. All reasonably expected activities and conditions, such as normal operations, maintenance, and other ancillary activities; equipment failure; improper operation; upsets, accidents, spills, leaks; and natural events such as rainfall, snowfall, etc.
2. All areas of the refinery with potential to generate water pollutants including process units, raw material and product storage, handling and transfer facilities, material handling areas, maintenance areas, solid and hazardous waste storage, treatment, and disposal, and stormwater systems.

The Permittee shall not be required to sample each stream analytically and may use engineering judgement to assess material inputs and outputs on a process unit basis.

- B. Cross-media shift of pollutants should be avoided, unless a clear net environmental benefit results, and compliance with standards applicable to other media or management programs would be maintained.
- C. The following are examples of pollution prevention opportunities that may warrant evaluation:
 1. Improving and/or establishing new management practices and standard operating procedures addressing; increased training or supervision; improvements in inventory control, materials and waste handling, general operations, and housekeeping; preventive maintenance; and remedial measures.
 2. Process or equipment modifications, including re-engineering processes to use less toxic input materials or to utilize by-products.
 3. Material substitution (with the exception of crude oil feedstocks).
 4. Reducing material inputs.
 5. Recycle/reuse or refinery waste, by-products, or process materials and fluids.
 6. Application of water conservation methods, including water reuse.
 7. Waste segregation and separation.
 8. Alternative and/or enhanced treatment technology, including upstream treatment of pollutants.

Other pollution prevention opportunities referenced in the guidance documents may also be considered and evaluated.

6. Incorporating Other Pollution Prevention Plans

The Permittee may incorporate applicable portions of plans prepared for other purposes. Plans or portions of plans incorporated into the pollution prevention plan become enforceable requirements of this permit.

7. Stormwater Inspections

The Permittee shall conduct two stormwater inspections per year; one during the wet season (October 1 - April 30) and the other during the dry season (May1- September 30).

- A. The wet season inspection shall be conducted during a rainfall event and shall include observation of the presence of any floating materials, suspended solids, oil and grease, discolorations, turbidity, odor, etc. in stormwater discharges in stormwater runoff throughout the refinery that could contribute to a discharge off-site.
- B. The dry season inspection shall determine the presence of unpermitted non-stormwater discharges such as sanitary wastewater, non-contact cooling water, process wastewater, and drainage from raw material/product/waste storage to the stormwater drainage system. If an unpermitted, non-stormwater discharge is discovered, the Permittee shall immediately notify the Department.

Inspections shall be conducted by staff who are knowledgeable and trained in the application of BMPs and pollution prevention activities at the refinery.

8. Plan Evaluation and Biennial Reporting

The Permittee shall periodically evaluate the pollution prevention plan to ensure that it has been updated or otherwise modified to reflect current conditions, that measures to reduce or eliminate pollutant loadings selected in the plan are adequate and are being properly implemented in accordance with the terms of the permit, and whether any additional controls are needed. The plan shall be modified to include any changes as a result of this evaluation.

The Permittee shall submit a progress report by March 1, 2005 and every two years thereafter. The report shall identify the implementation status of each pollution prevention opportunity selected for implementation, the benefits or other results of implementation actions completed, and any modifications or updates to the plan. The report shall also include a summary of the results of stormwater inspections.

9. Continuous Improvement

In maintaining, implementing, and updating the pollution prevention plan, the Permittee is encouraged to employ continuous improvement principles, including the systematic and ongoing identification, evaluation, and implementation of pollution prevention opportunities in all decisions having environmental consequences.

S5. SOLID WASTE HANDLING


The Permittee shall handle and dispose of all solid waste material in such a manner as to prevent its entry into state ground or surface water. The Permittee shall not allow leachate from its solid waste material to enter state waters without providing all known, available and reasonable methods of treatment, nor allow such leachate to cause violations of the State Surface Water Quality Standards, Chapter 173-201A WAC, or the State Ground Water Quality Standards, Chapter 173-200 WAC. The Permittee shall apply for a permit or permit modification as may be required for such discharges to state ground or surface waters.

S6. NON-ROUTINE AND UNANTICIPATED DISCHARGES

Beginning on the effective date of this permit, the Permittee may discharge non-routine wastewater from Outfall 002 on a case-by-case basis if approved by the Department. Prior to any such discharge, the Permittee shall contact the Department and **at a minimum** provide the following information:

1. The nature of the activity that is generating the discharge.
2. Any alternatives to the discharge, such as reuse, storage, or recycling of the water.
3. The total volume of water expected to be discharged.
4. The results of the chemical analysis of the water. The water shall be analyzed for all constituents limited for the Permittee's discharge.

The analysis shall also include hardness, any metals that are limited by water quality standards, and any other parameter deemed necessary by the Department. All discharges must comply with the effluent limitations as established in Condition S1. of this permit, water quality standards, sediment management standards, and any other limitations imposed by the Department.

5. The date of proposed discharge and the rate at which the water will be discharged, in gallons per minute. The discharge rate shall be limited to that which will not cause erosion of ditches or structural damage to culverts and their entrances or exits.
6.  he proposed discharge is to a county storm drain and is approved by the Department, the Permittee shall notify the county authority of the discharge.

The discharge cannot proceed until the Department has reviewed the information provided and has authorized the discharge. Authorization from the Department will be by letter to the Permittee or by an Administrative Order.

S7. STORAGE TANK WASTEWATER

The operation of removing wastewater from oil, product, and intermediate distillate storage tanks shall be performed in a manner and with facilities as required to prevent the wastewater from draining or spilling onto the ground.

S8. ACUTE TOXICITY

A. Testing Requirements

The Permittee shall test final effluent once in the last summer and once in the last winter prior to submission of the application for permit renewal. The two species listed below shall be used on each sample and the results submitted to the Department as a part of the permit renewal application process. The Permittee shall conduct acute toxicity testing on a series of five concentrations of effluent and a control in order to be able to determine appropriate point estimates and a no observed effects concentration (NOEC). The percent survival in 100% effluent shall also be reported.

Acute toxicity tests shall be conducted with the following species and protocols:

- 1) Fathead minnow, *Pimephales promelas* (96-hour static-renewal test, method: EPA/600/4-90/027F)
- 2) Daphnid, *Ceriodaphnia dubia*, *Daphnia pulex*, or *Daphnia magna* (48-hour static test, method: EPA/600/4-90/027F).

B. Sampling and Reporting Requirements

1. All reports for effluent characterization or compliance monitoring shall be submitted in accordance with the most recent version of Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* in regards to format and content. Reports shall contain bench sheets and reference toxicant results for test methods. If the lab provides the toxicity test data on floppy disk for electronic entry into the Department's database, then the Permittee shall send the disk to the Department along with the test report, bench sheets, and reference toxicant results.
2. Testing shall be conducted on 24-hour composite effluent samples. Samples taken for toxicity testing shall be cooled to 4 degrees Celsius while being collected and shall be sent to the lab immediately upon completion. The lab shall begin the toxicity testing as soon as possible but no later than 36 hours after sampling was ended.
3. All samples and test solutions for toxicity testing shall have water quality measurements as specified in Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* or most recent version thereof.

4. All toxicity tests shall meet quality assurance criteria and test conditions in the most recent versions of the EPA manual listed in subsection S8.A. and the Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If test results are determined to be invalid or anomalous by the Department, testing shall be repeated with freshly collected effluent.
5. Control water and dilution water shall be laboratory water meeting the requirements of the EPA manual listed in subsection S8.A or pristine natural water of sufficient quality for good control performance.
6. The whole effluent toxicity tests shall be run on an unmodified sample of final effluent.
7. The Permittee may choose to conduct a full dilution series test during compliance monitoring in order to determine dose response. In this case, the series must have a minimum of five effluent concentrations and a control. The series of concentrations must include the acute critical effluent concentration (ACEC). The ACEC equals 3.2% effluent.
8. All whole effluent toxicity tests, effluent screening tests, and rapid screening tests that involve hypothesis testing and do not comply with the acute statistical power standard of 29% as defined in WAC 173-205-020 must be repeated on a fresh sample with an increased number of replicates to increase the power.

S9. CHRONIC TOXICITY

A. Effluent Characterization

During the 3rd or 4th year, or following FCCU startup, whichever is sooner, the Permittee shall begin chronic toxicity testing on the final effluent. The two chronic toxicity tests listed below shall be conducted on each sample taken for effluent characterization.

A written report shall be submitted to the Department within 60 days after the sample date. A final effluent characterization summary report shall be submitted to the Department within 90 days after the last monitoring test results are final. This summary report shall include a tabulated summary of the individual test results and any information on sources of toxicity, toxicity source control, correlation with effluent data, and toxicity treatability which is developed during the period of testing.

Effluent testing for chronic toxicity shall be conducted every other month for one year (six times). The Permittee shall conduct chronic toxicity testing during effluent characterization on a series of at least five concentrations of effluent in order to determine appropriate point estimates. This series of dilutions shall include a 3.2% effluent dilution (the ACEC).

The Permittee shall compare the 3.2% effluent dilution result to the control using hypothesis testing at the 0.05 level of significance as described in Appendix H, EPA/600/4-89/001.

Chronic toxicity tests shall be conducted with the following species and the most recent version of the following protocols:

Saltwater Chronic Toxicity Test Species		Method
Topsmelt or Silverside minnow	<i>Atherinops affinis</i> or <i>Menidia beryllina</i>	EPA/600/R-95/136 or EPA/600/4-91/003
Pacific Oyster or Mussel	<i>Crassostrea gigas</i> or <i>Mytilus sp.</i>	EPA/600/R-95/136

The Permittee shall use the West Coast fish (topsmelt, *Atherinops affinis*) for toxicity testing unless the lab cannot obtain a sufficient quantity of a West Coast species in good condition in which case the East Coast fish (silverside minnow, *Menidia beryllina*) may be substituted.

The Pacific oyster and mussel test shall be run in accordance with EPA/600/R-95/136 and the bivalve development test conditions in the Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* or the most recent version thereof. The lab shall use whichever one of the two species that will give a valid result in each particular test.

B. Sampling and Reporting Requirements

1. All reports for effluent characterization or compliance monitoring shall be submitted in accordance with the most recent version of Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* in regards to format and content. Reports shall contain bench sheets and reference toxicant results for test methods. If the lab provides the toxicity test data on floppy disk for electronic entry into the Department's database, then the Permittee shall send the disk to the Department along with the test report, bench sheets, and reference toxicant results.
2. Testing shall be conducted on grab samples. Samples taken for toxicity testing shall be cooled to 4 degrees Celsius while being collected and shall be sent to the lab immediately upon completion. The lab shall begin the toxicity testing as soon as possible but no later than 36 hours after sampling was ended.
3. All samples and test solutions for toxicity testing shall have water quality measurements as specified in Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* or most recent version thereof.

4. All toxicity tests shall meet quality assurance criteria and test conditions in the most recent versions of the EPA manual listed in subsection S9.A. and the Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If test results are determined to be invalid or anomalous by the Department, testing shall be repeated with freshly collected effluent.
5. Control water and dilution water shall be laboratory water meeting the requirements of the EPA manual listed in subsection S9.A or pristine natural water of sufficient quality for good control performance.
6. The whole effluent toxicity tests shall be run on an unmodified sample of final effluent.
7. The Permittee may choose to conduct a full dilution series test in order to determine dose response. In this case, the series must have a minimum of five effluent concentrations and a control. The series of concentrations must include the ACEC and the chronic critical effluent concentration (CCEC).). The ACEC equals 3.2% effluent and the CCEC equals 0.8% effluent. The ACEC and CCEC may either substitute for the effluent concentration that is closest to it in the dilution series or be an extra effluent concentration.
8. All whole effluent toxicity tests that involve hypothesis testing and do not comply with the chronic statistical power standard of 39% as defined in WAC 173-205-020 must be repeated on a fresh sample with an increased number of replicates to increase the power.

S10. SEDIMENT MONITORING – OUTFALL 001

The Permittee shall submit to the Department for review and approval a Sediment Sampling and Analysis Plan for sediment monitoring no later than **March 1, 2003**. The purpose of the plan is to recharacterize sediment quality in the vicinity of the Permittee's discharge locations.

Within the 1 year following Department approval of the Sediment Sampling and Analysis Plan, sediments will be collected and analyzed. The Permittee shall submit to the Department a Sediment Data Report containing the results of the sediment sampling and analysis no later than within one year after the Departments approval of the Plan.

A. Sediment Sampling and Analysis Plan

1. The Permittee shall a Sediment Sampling and Analysis Plan following the guidance provided in the Sediment Source Control Standards User Manual, Appendix B: Sediment Sampling and Analysis Plan (Ecology, 1995).

2. The Sediment Sampling and Analysis Plan shall include 6-10 discrete sampling stations in the vicinity of the discharge. These sampling stations shall not include the required reference and ambient stations.

B. Sediment Data Report

1. The Sediment Data Report shall conform with the approved Sampling and Analysis Plan.

S11. OUTFALL EVALUATION

The Permittee shall inspect, once per permit cycle, the submerged portion of the outfall line and diffuser to document its integrity and continued function. Within 90 days of conducting the outfall evaluation, the inspection report shall be submitted to the Department, but no later than **August 4, 2006**. If conditions allow for a photographic verification, it shall be included in the report.

S12. CERTIFIED OPERATOR

The operator in responsible charge of facilities that treat sanitary wastes or a combination of sanitary, commercial or industrial waste shall be certified in accordance with the provisions of Chapter 70.95B RCW and Chapter 173-230 WAC.

S13. HERRING EMBRYO AND LARVAL TOXICITY TESTING

A. Study Requirements

During the second, third and fourth year of the Permit term the Permittee shall conduct herring toxicity testing on the final effluent. The herring toxicity testing shall be conducted twice each year. Each year's samples shall be collected at least 2 weeks apart. The Permittee shall conduct the herring toxicity testing on a series of 5 dilutions of effluent plus a nontoxic control. This series of dilutions shall include a 3.2% dilution (the ACEC). The Permittee shall compare the ACEC to the control using hypothesis testing at the 0.05 level of significance as described in Appendix H, EPA/600/4-89/001.

The results of each year's herring toxicity testing shall be submitted to the Department **within 60 days of the second sampling event for that year**.

The herring toxicity tests shall be conducted with Pacific herring (*Clupea pallasii*) using the embryo and larval test methods available at that time from the herring test development work at Shannon Point Marine Center. Each sample shall be tested using both the embryo and larval herring tests methods. If the Department agrees that either of the herring tests is unavailable at the time of the sampling, the Permittee shall use the following substitute species and test methods:

Herring embryo test substitute – Sheepshead Minnow, *Cyprinodon variegatus*, Embryo-larval Survival and Teratogenicity Test, Method 1005.0, EPA/600/4-91/003.

Herring larval test substitute – Topsmelt, *Atherinops affinis*, 7-Day Larval Growth and Survival Test, EPA/600/R-95/136.

B. Sampling and Reporting Requirements

1. All reports for the herring toxicity testing or substitute species testing shall be submitted in accordance with the most recent version of Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* in regards to format and content. Reports shall contain bench sheets and reference toxicant results for test methods. If the lab provides the toxicity test data on floppy disk for electronic entry into the Department's database, then the Permittee shall send the disk to the Department along with the test report, bench sheets and reference toxicant results.
2. Testing shall be conducted on grab effluent samples. Samples taken for toxicity testing shall be cooled to 4 degrees Celsius or less while being collected and shall be sent to the lab immediately upon completion. The lab shall begin the toxicity testing as soon as possible but no later than 36 hours after sampling was ended.
3. All samples and test solutions for toxicity testing shall have water quality measurements as specified in Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* or most recent version thereof.
4. All toxicity tests shall meet quality assurance criteria in the EPA manual listed in subsection A. and in Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If test results are determined invalid or anomalous by the Department, testing shall be repeated with freshly collected effluent.
5. Control water and dilution water shall be laboratory water meeting the requirements of the EPA manual listed in subsection S9.A. Dilution water for toxicity testing shall be laboratory water of sufficient quality for good control performance.
6. The whole effluent toxicity test series shall be run on an unmodified sample of final effluent.
7. The Permittee must conduct toxicity tests with a series of 5 effluent concentrations and a control during the herring bioassay study in order to determine dose-response. The series of concentrations must include a 3.2% effluent concentration (the ACEC).

8. All whole effluent toxicity tests that involve hypothesis testing and do not comply with the chronic statistical power standard of 39% as defined in WAC 173-205-020 must be repeated on a fresh sample with an increased number of replicates to increase the power.

S14. TREATMENT EFFICIENCY STUDY AND ENGINEERING REPORT

The Permittee shall conduct chemical analyses of influent and effluent samples from several points within the wastewater treatment system to determine treatment and removal efficiencies. Influent and effluent samples shall be collected from the following points:

- 1) a sampling point upstream at the Oily Lift Station,
- 2) a sampling point at the bottom drain of Tank 6000X1,
- 3) a sampling point at the Phenolic Lift Station,
- 4) effluent from the induced gas flotation units (WEMCOs),
- 5) influent to the Clarification Basin,
- 6) effluent from the Catchment Basin,
- 7) influent to the Storm Water Surge Pond, and
- 8) effluent from the Storm Water Surge Pond.

At the time of sampling the flow through the treatment units shall be monitored and recorded. Acceptable methods of monitoring shall include: in pipe metering, or other commonly used engineering methods approved by Ecology.

The **specific** influent and effluent sampling points shall be identified on a flow diagram of the wastewater treatment system. The flow diagram shall identify all extraneous wastewater streams to the individual treatment units, including recycle streams. The sample points shall be selected to be representative of each wastewater stream without the influence of recycle streams. Flow monitoring method and monitoring points shall also be identified for each treatment system (process and stormwater). This information shall be submitted to Ecology **by June 1, 2002**.

The Permittee may submit existing data on internal waste streams for substitution or partial substitution of the following sampling requirements. Existing data shall be submitted for Ecology review **by June 1, 2002**. The data submittal shall include a discussion of the sampling point and methods used to ensure that the data is representative. Ecology will then make a determination on the usability of the data and any subsequent sampling required.

By September 1, 2003, influent and effluent sampling shall be conducted during six separate intervals; each interval will be composed of six (6) 24-hour sampling periods. Three of the sampling intervals shall be conducted when the effluent plant is **primarily** processing dry weather flow; the other three intervals shall be conducted when the effluent plant is treating wet weather flow. Minor precipitation events during the dry weather sampling are not expected to impact the data significantly but should be recorded if they occur. Each of the three dry weather and three wet weather sampling intervals shall be spaced at least one month apart.

Samples shall be collected when the wastewater treatment system is in a relatively steady state, i.e. no peak flows, upsets, or maintenance turnarounds. The timing shall be such that the effluent samples from each point correspond to the upstream influent samples and the resultant analytical results can be effectively used to estimate removal efficiencies across the applicable portions of the treatment system.

The following table summarizes the required monitoring to evaluate the efficiency of the treatment system (“set” - is defined as one 24-hour composite sample collected at each of the identified sampling points listed above 1-8):

Sampling Requirements	Wet Weather Flow Intervals			Dry Weather Flow Intervals		
	1	2	3	4	5	6
“Full suite” of parameters at locations 1-8, with automated 24-hour time-based composite sampler [note: grab sample for oil & grease] . ⁽¹⁾	1 set			1 set		
Additional BOD ₅ , TSS, COD, and oil & grease at locations 1-8, with automated 24-hour time-based composite sampler [note: grab sample for oil & grease] . ⁽²⁾	5 sets			5 sets		
BOD ₅ , TSS, COD, and oil & grease at locations 1-8, with automated 24-hour time-based composite sampler [note: grab sample for oil & grease] . ⁽³⁾		5 sets	5 sets		5 sets	5 sets

⁽¹⁾ During one wet and one dry weather interval, **one (1) set (locations 1-8) of composite samples** shall be collected and analyzed for the following conventionals and non-conventionals: BOD₅, COD, ammonia, TKN, oil & grease, TSS, and sulfide; priority pollutant metals and cyanide; priority pollutant volatiles; and priority pollutant base/neutral/acids. The preceding analyses correspond to the **“full suite”** designation in the above table. Cyanide and priority pollutant metals data shall be collected for informational purposes only. With the exception of oil & grease, samples at all locations shall be collected with a 24-hour time-based composite sampler. A separate grab sample shall be collected for oil & grease at each identified location.

NOTE: The priority pollutant scans for this study may be done in conjunction with those scans required for human health characterization wherever the timing is appropriate. A priority pollutant list with CAS numbers and minimum detection limits is provided in **Appendix A**. The priority pollutant scan may exclude PCBs, PBBs, and all pesticides except any listed pesticide that is used on the refinery site.

(2) During the same wet and dry weather sampling interval listed under footnote ⁽¹⁾, **five (5) additional sets (locations 1-8) of composite samples** shall be collected and analyzed for **BOD₅, TSS, COD, and oil and grease**. The samples for BOD, TSS and COD shall be collected with a 24-hour automated time-based composite sampler. Separate grab samples shall be collected at each location and analyzed for oil & grease.

(3) Sampling shall also be conducted during four other intervals (two wet and two dry weather as identified above). During each interval, five sets of composite samples shall be collected at sample locations 1-8 and analyzed for BOD₅, TSS, COD, and oil & grease. The samples for BOD₅, TSS and COD shall be representative 24-hour time-based composite samples or six grab samples equally spaced over a 24-hour period. Separate grab samples shall be collected at each sample location and analyzed for oil & grease.

Sampling and analytical methods used to meet the monitoring requirements specified in this permit shall conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136 or to the latest revision of *Standard Methods for the Examination of Water and Wastewater* (APHA), unless otherwise specified in this permit or approved in writing by the Department of Ecology (Department).

The Permittee shall also prepare an engineering analysis plan and report on the wastewater treatment system. The report shall be prepared in accordance with Chapter 173-240 WAC and include the following elements:

1. A schematic of the treatment units, including the spill basin.
2. The last 2 years of flow data through the treatment units including recycle streams. Flow data shall be presented in terms of average dry weather flow, average monthly flow of the maximum month, and peak hourly flow. If flow-monitoring data is not available for wastewater streams then an estimate shall be provided with the method used for estimation.
3. Basic design data and sizing calculations for each unit in the wastewater treatment system. Trickling filter information should include depth of media, cross-sectional area of filter, recirculation rates, flushing and normal distribution rates, flushing and normal distributor speeds, ventilation rate, media type, current flow rates applied and design flow rates.

Aeration basins and activated sludge systems information should include detention times, solids loading rates, volume, current and design flow rates (peak hourly, maximum month, average daily), unit size and depth, equipment Hp and rated capacity, volumetric loading, MLSS, F:M ratio, return ratio, and sludge residence time, as applicable. Information for clarification basin and holding ponds shall include sizing information, solids loading rates, overflow rates, sludge volume index (SVI), recycle rates, as applicable. This information shall be provided for design criteria parameters -- BOD, TSS, COD, and oil and grease, where applicable.

4. An analysis of current treatment and removal efficiencies for the design criteria parameters (BOD, TSS, COD, and oil and grease, where applicable) and current operating conditions for each treatment unit based on information collected in the treatment efficiency study described above.
5. Predicted design capacities including hydraulic and organic loadings for each wastewater treatment unit under the flow conditions described above in (2). The predicted design capacities shall be based on the information collected during the study, the previous 2 years of flow data, and any additional relevant information collected by the Permittee.
6. Predicted effluent wastewater characteristics at design flows.

The Engineering Analysis Plan report shall be submitted to the Department for review and approval by March 1, 2004.

By August 4, 2006, the Permittee shall submit an **Engineering Analysis Report** to the Department that compares current conditions within the refinery to the predicted design capacity of the wastewater treatment system, as determined in the approved Engineering Analysis Plan. The analysis shall also predict the effect of any changes proposed for the refinery's operations during the next permit term on the wastewater treatment system capacity. The report shall include a discussion of any production increases, changes to crude sources, modifications to process units, changes in additives, etc., that could potentially cause an increase in hydraulic and/or organic loading to the wastewater treatment facility.

S15. HUMAN HEALTH CRITERIA MONITORING

Washington's water quality standards now include 91 numeric health-based criteria in addition to the aquatic life criteria. The human health criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The discharge must be evaluated for reasonable potential to violate the human health criteria. Human health criteria are required to be met at the edge of the chronic zone. The mixing zone design conditions for human health criteria are different from that allowed for aquatic life criteria and result in a different allowable dilution.

In order to more thoroughly evaluate human health criteria the Permittee shall recharacterize the effluent by sampling the final effluent for the 91 human health criteria listed pollutants, excluding PCBs, PBBs and pesticides, unless the pesticide is used on the refinery site. In addition to the human health criteria, the final effluent shall be analyzed for the chlorinated dioxins and furans (2,3,7,8-Cl substituted tetra- through octa- congeners) and dibenzofuran.

Dibenzofuran shall be analyzed using EPA Method 8270 or it's equivalent. Dioxin and furan analysis including sample containers and QA/QC shall be conducted in accordance with Method 1613: Tetra- through Octa- Chlorinated Dioxins and Furans by Isotopic Dilution HRGC/HRMS, USEPA Office of Water, Engineering and Analysis Division, Revision A. The Minimum Level (ML) of detection for 2,3,7,8-TCDD/TCDF shall be 10 parts per quadrillion or less. The Permittee shall report the lowest detected concentrations of all 2,3,7,8-Cl substituted dioxins and furans that meet the quality assurance specifications of Method 1613, including all detected concentrations below the calibration limits of Method 1613.

The effluent shall be sampled and analyzed at least 4 times during the life of the permit. The sampling events shall be spaced at least 6 months apart. **The data shall be submitted by August 4, 2006.** Priority pollutant scans for this requirement may be completed in conjunction with those scans required for the treatment efficiency study and dioxin study wherever the timing is appropriate.

Most parameters have had adequate detection levels in previous priority pollutant scans. Certain human health parameters require more stringent testing than that required for aquatic life criteria. Those parameters are specifically listed below. Included in that list are the minimum detection levels necessary to determine if the Permittee is in compliance with human health criteria. The detection level required is dependent on the number of sample events (4 are assumed). The available dilution and the number of a sampling point upstream of the sample events have been factored into the detection limit determination.

PARAMETER	MDL in µg/L
Benzidine	0.0729
Benzo(a)anthracene	4.185
Benzo(a)pyrene	4.185
Benzo(b)fluoranthene	4.185
Benzo(k)fluoranthene	4.185
Chrysene	4.185
Dibenzo(a,h)anthracene	4.185

PARAMETER	MDL in µg/L
Hexachlorobenzene	0.10395
Ideno(1,2,3-cd)pyrene	4.185

The detection level for the listed parameters may not be achievable because of the limitations of the available test methods. The Permittee is required to achieve the best, reasonably available detection limit obtainable, for their specific wastewater effluent, using approved test methods.

If a detection limit is not achievable, the Permittee shall notify the Department and include an explanation with the test results.

S16. GROUND WATER IMPACT STUDY

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. NPDES Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100). The effect of any discharge through the unlined native clay bottoms of the wastewater ponds on ground water cannot be determined without further investigation. To determine what this effect may be, the Permittee shall:

1. **Prepare and submit to the Department for approval a ground water impact study plan by March 1, 2005.** The plan shall include sampling plans for determining the concentrations of the constituents listed in the Ground Water Quality Standards (WAC 173-200-040, excepting pesticides, radionuclides, PCBs, PBBs, and dioxin), in each of the unlined wastewater ponds [the spill basin, the stormwater surge basin, the clarification basin, the catchment basin, the dewatering basin, and the final holding pond,]. Random composite grab samples will be acceptable for sampling the ponds. It must also include a plan for a hydrogeologic study.

Guidance for preparation of hydrogeologic studies and monitoring plans is provided in the *Implementation Guidance for the Ground Water Quality Standards* (Pub. #96-02, April 1996), and can be obtained from the Permit Manager. Existing information on hydrogeologic conditions can be used if it has been obtained within the last five years and is in accordance with the guidance.

2. **Prepare and submit to the Department for review a report detailing the results of the ground water impact study by August 4, 2006.** The report shall contain a monitoring plan if it is determined that there is a potential for the wastewater to impact the ground water.

GENERAL CONDITIONS

G1. SIGNATORY REQUIREMENTS

All applications, reports, or information submitted to the Department shall be signed and certified.

- A. All permit applications shall be signed by either a responsible corporate officer of at least the level of vice president of a corporation, a general partner of a partnership, or the proprietor of a sole proprietorship.
- B. All reports required by this permit and other information requested by the Department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - 1. The authorization is made in writing by a person described above and submitted to the Department.
 - 2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
- C. Changes to authorization. If an authorization under paragraph B.2 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph B.2 above must be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.
- D. Certification. Any person signing a document under this section shall make the following certification:

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

G2. RIGHT OF INSPECTION AND ENTRY

The Permittee shall allow an authorized representative of the Department, upon the presentation of credentials and such other documents as may be required by law:

- A. To enter upon the premises where a discharge is located or where any records must be kept under the terms and conditions of this permit.
- B. To have access to and copy - at reasonable times and at reasonable cost - any records required to be kept under the terms and conditions of this permit.
- C. To inspect - at reasonable times - any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.
- D. To sample or monitor - at reasonable times - any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

G3. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated either at the request of any interested person (including the permittee) or upon the Department's initiative. However, the permit may only be modified, revoked and reissued, or terminated for the reasons specified in 40 CFR 122.62, 122.64 or WAC 173-220-150 according to the procedures of 40 CFR 124.5.

- A. The following are causes for terminating this permit during its term, or for denying a permit renewal application:
 - 1. Violation of any permit term or condition.
 - 2. Obtaining a permit by misrepresentation or failure to disclose all relevant facts.
 - 3. A material change in quantity or type of waste disposal.
 - 4. A determination that the permitted activity endangers human health or the environment or contributes to water quality standards violations and can only be regulated to acceptable levels by permit modification or termination [40 CFR part 122.64(3)].
 - 5. A change in any condition that requires either a temporary or permanent reduction or elimination of any discharge or sludge use or disposal practice controlled by the permit [40 CFR part 122.64(4)].
 - 6. Nonpayment of fees assessed pursuant to RCW 90.48.465.
 - 7. Failure or refusal of the permittee to allow entry as required in RCW 90.48.090.

- B. The following are causes for modification but not revocation and reissuance except when the permittee requests or agrees:
1. A material change in the condition of the waters of the state.
 2. New information not available at the time of permit issuance that would have justified the application of different permit conditions.
 3. Material and substantial alterations or additions to the permitted facility or activities which occurred after this permit issuance.
 4. Promulgation of new or amended standards or regulations having a direct bearing upon permit conditions, or requiring permit revision.
 5. The Permittee has requested a modification based on other rationale meeting the criteria of 40 CFR part 122.62.
 6. The Department has determined that good cause exists for modification of a compliance schedule, and the modification will not violate statutory deadlines.
 7. Incorporation of an approved local pretreatment program into a municipality's permit.
- C. The following are causes for modification or alternatively revocation and reissuance:
1. Cause exists for termination for reasons listed in A1 through A7, of this section, and the Department determines that modification or revocation and reissuance is appropriate.
 2. The Department has received notification of a proposed transfer of the permit. A permit may also be modified to reflect a transfer after the effective date of an automatic transfer (General Condition G8) but will not be revoked and reissued after the effective date of the transfer except upon the request of the new permittee.

G4. REPORTING A CAUSE FOR MODIFICATION

The Permittee shall submit a new application, or a supplement to the previous application, along with required engineering plans and reports whenever a material change to the facility or in the quantity or type of discharge is anticipated which is not specifically authorized by this permit. This application shall be submitted at least sixty (60) days prior to any proposed changes. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not relieve the Permittee of the duty to comply with the existing permit until it is modified or reissued.

G5. PLAN REVIEW REQUIRED

Prior to constructing or modifying any wastewater control facilities, an engineering report and detailed plans and specifications shall be submitted to the Department for approval in accordance with Chapter 173-240 WAC. Engineering reports, plans, and specifications shall be submitted at least one hundred eighty (180) days prior to the planned start of construction unless a shorter time is approved by Ecology. Facilities shall be constructed and operated in accordance with the approved plans.

G6. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in this permit shall be construed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G7. DUTY TO REAPPLY

The Permittee shall apply for permit renewal at least 180 days prior to the specified expiration date of this permit.

G8. TRANSFER OF THIS PERMIT

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the Permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Department.

A. Transfers by Modification

Except as provided in paragraph B below, this permit may be transferred by the Permittee to a new owner or operator only if this permit has been modified or revoked and reissued under 40 CFR 122.62(b)(2), or a minor modification made under 40 CFR 122.63(d), to identify the new Permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

B. Automatic Transfers

This permit may be automatically transferred to a new Permittee if:

1. The Permittee notifies the Department at least 30 days in advance of the proposed transfer date.
2. The notice includes a written agreement between the existing and new Permittee's containing a specific date transfer of permit responsibility, coverage, and liability between them.

3. The Department does not notify the existing Permittee and the proposed new Permittee of its intent to modify or revoke and reissue this permit. A modification under the subparagraph may also be minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the written agreement.

G9. REDUCED PRODUCTION FOR COMPLIANCE

The Permittee, in order to maintain compliance with its permit, shall control production and/or all discharges upon reduction, loss, failure, or bypass of the treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

G10. REMOVED SUBSTANCES

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall not be resuspended or reintroduced to the final effluent stream for discharge to state waters.

G11. DUTY TO PROVIDE INFORMATION

The Permittee shall submit to the Department, within a reasonable time, all information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee shall also submit to the Department upon request, copies of records required to be kept by this permit [40 CFR 122.41(h)].

G12. OTHER REQUIREMENTS OF 40 CFR

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

G13. ADDITIONAL MONITORING

The Department may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G14. PAYMENT OF FEES

The Permittee shall submit payment of fees associated with this permit as assessed by the Department.

G15. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit shall be deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars (\$10,000) and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit shall incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars (\$10,000) for every such violation. Each and every such violation shall be a separate and distinct offense, and in case of a continuing violation, every day's continuance shall be deemed to be a separate and distinct violation.

G16. UPSET

Definition – “Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that: 1) an upset occurred and that the Permittee can identify the cause(s) of the upset; 2) the permitted facility was being properly operated at the time of the upset; 3) the Permittee submitted notice of the upset as required in condition S3.E; and 4) the Permittee complied with any remedial measures required under S5 of this permit.

In any enforcement proceeding the Permittee seeking to establish the occurrence of an upset has the burden of proof.

G17. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.

G18. DUTY TO COMPLY

The Permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

G19. TOXIC POLLUTANTS

The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

G20. PENALTIES FOR TAMPERING

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this Condition, punishment shall be a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four (4) years, or by both.

G21. REPORTING PLANNED CHANGES

The Permittee shall, as soon as possible, give notice to the Department of planned physical alterations or additions to the permitted facility, production increases, or process modification which will result in: 1) the permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b); 2) a significant change in the nature or an increase in quantity of pollutants discharged; or 3) a significant change in the Permittee's sludge use or disposal practices. Following such notice, this permit may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G22. REPORTING ANTICIPATED NON-COMPLIANCE

The Permittee shall give advance notice to the Department by submission of a new application or supplement thereto at least one hundred and eighty (180) days prior to commencement of such discharges, of any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility or activity which may result in noncompliance with permit limits or conditions. Any maintenance of facilities, which might necessitate unavoidable interruption of operation and degradation of effluent quality, shall be scheduled during non-critical water quality periods and carried out in a manner approved by the Department.

G23. REPORTING OTHER INFORMATION

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

**G24. REPORTING REQUIREMENTS APPLICABLE TO EXISTING
MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL
DISCHARGERS**

The Permittee belonging to the categories of existing manufacturing, commercial, mining, or silviculture must notify the Department as soon as they know or have reason to believe:

- A. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following “notification levels:”
 - 1. One hundred micrograms per liter (100 µg/l).
 - 2. Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony.
 - 3. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7).
 - 4. The level established by the Director in accordance with 40 CFR 122.44(f).
- B. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following “notification levels:”
 - 1. Five hundred micrograms per liter (500µg/L).
 - 2. One milligram per liter (1 mg/L) for antimony.
 - 3. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7).
 - 4. The level established by the Director in accordance with 40 CFR 122.44(f).

G25. COMPLIANCE SCHEDULES

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each schedule date.

APPENDIX A

PRIORITY POLLUTANT LIST

Pollutant & CAS No. (if available)	Analytical Protocol as EPA Part 136 methods or Standard Methods	Detection or Quantitation Level
Metals, Cyanide & Total Phenols (Part C)		DL µg/l
Antimony, Total (7440-36-0)	204.2	3
Arsenic, Total (7440-38-2)	206.2	1
Beryllium, Total (7440-43-9)	210.2	1
Cadmium, Total (7440-43-9)	213.2	0.1
Chromium, Total (7440-47-3)	218.2	1
Copper, Total (7440-50-8)	220.2	1
Lead, Total (7439-92-1)	239.2	1
Mercury, Total (7439-97-6) *	245.1 or 245.2	0.2
Nickel, Total (7440-02-0)	249.2	1
Selenium, Total (7782-49-2)	270.2	2
Silver, Total (7440-22-4)	272.2	0.2
Thallium, Total (7440-28-0)	279.2	1
Zinc, Total (7440-66-6)	289.2	0.05
Cyanide, Total ()	335.2	20
Dioxin		QL µg/l
2,3,7,8-Tetra-Chlorodibenzo-P-Dioxin (1764-01-6) *	1613	0.00001
Volatile Compounds		QL µg/l
Acrolein (107-02-8)	624	50
Acrylonitrile (107-13-1)	624	50
Benzene (71-43-2)	624	10
Bis (chloromethyl) Ether (542-88-1)	624	10
Bromoform (75-25-2)	624	10
Carbon Tetrachloride (108-90-7)	624	10
Chlorobenzene (108-90-7)	624	50
Chlorodibromomethane (124-48-1)	624	10
Chloroethane (75-00-3)	624	10
Chloroethylvinyl Ether (110-75-8)	624	50
Chloroform (67-66-3)	624	10
Dichlorobromomethane (75-27-4)	624	10
Dichlorodifluoromethane (75-71-8)	624	10
1,1-Dichloroethane (75-34-3)	624	10
1,2-Dichloroethane (107-06-2)	624	10
1,1-Dichloroethylene (75-35-4)	624	10
1,2-Dichloropropane (78-87-5)	624	10
1,3-Dichloropropene (542-75-6)	624	10
Ethylbenzene (100-41-4)	624	10

Pollutant & CAS No. (if available)	Analytical Protocol as EPA Part 136 methods or Standard Methods	Detection or Quantitation Level
Methyl Bromide (74-83-9)	624	50
Methyl Chloride (74-87-3)	624	50
Methylene Chloride (75-09-2)	624	20
1,1,2,2-Tetrachloroethane (79-34-5)	624	10
Tetrachloroethylene (127-18-4)	624	10
Toulene (108-88-3)	624	10
1,2-Trans-Dichloroethylene (156-60-5)	624	10
1,1,1-Trichloroethane (71-55-6)	624	10
1,1,2-Trichloroethane (79-00-5)	624	10
Trichloroethylene (79-01-6)	624	10
Trichlorofluoromethane (75-69-4)	624	10
Vinyl Chloride (75-01-4)	624	10
Acid Compounds		QL µg/l
2-Chlorophenol (95-57-8)	625	10
2,4-Dichlorophenol (120-83-2).	625	10
2,4-Dimethylphenol (105-67-9)	625	10
4,6-Dinitro-O-Cresol (534-52-1)	625	50
2,4 Dinitrophenol (51-28-5)	625	50
2-Nitrophenol (88-75-5)	625	20
4-Nitrophenol (100-02-7)	625	50
P-Chloro-M-Cresol (59-50-7)	625	10
Pentachlorophenol (87-86-5)	625	50
Phenol (108-95-2)	625	10
2,4,6-Trichlorophenol (88-06-2)	625	10
Base/Neutral Compounds		QL µg/l
Acenaphthene (83-32-9)	625	10
Acenaphtylene (208-96-8)	625	10
Anthracene (120-12-7)	625	10
Benzidine (92-87-5)	625	50
Benzo (a) Anthracene (56-55-3)	625	10
Benzo (a) Pyrene (50-32-8) *	625	10
3,4-Benzofluoranthene (205-99-2)	625	10
Benzo (ghi) Perylene (191-24-2)	625	20
Benzo (k) Fluoranthene (207-08-9)	625	10
Bis (2-Chloroethoxy) Methane (111-81-1)	625	10
Bis (2-Chloroethyl) Ether (111-44-4)	625	10
Bis (2-Chloroisopropyl) Ether (102-60-1)	625	10
Bis (2-Ethylhexyl) Phthalate (117-81-7)	625	10
4-Bromophenyl Phenyl Ether (101-55-3)	625	10
Butyl Benzyl Phthalate (85-68-7)	625	10
2-Chloronaphthalene (91-58-7)	625	10
4-Chlorophenyl Phenyl Ether (7005-72-3)	625	10
Chrysene (218-01-8)	625	10

Pollutant & CAS No. (if available)	Analytical Protocol as EPA Part 136 methods or Standard Methods	Detection or Quantitation Level
Dibenzo (a-h) Anthracene (53-70-3)	625	20
1,2-Dichlorobenzene (95-50-1)	625	10
1,3-Dichlorobenzene (541-73-1)	625	10
1,4-Dichlorobenzene (106-46-7)	625	10
3,3'-Dichlorobenzidine (91-84-1)	625	50
Diethyl Phthalate (84-66-2)	625	10
Dimethyl Phthalate (131-11-3)	625	10
Di-N-Butyl Phthalate (84-74-2)	625	10
2,4-Dinitrotoluene (121-14-2)	625	10
2,6-Dinitrotoluene (606-20-2)	625	10
Di-n-octyl Phthalate (117-84-0)	625	10
1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	625	20
Fluoranthene (206-44-0)	625	10
Fluorene (86-73-7)	625	10
Hexachlorobenzene (118-74-1) *	625	10
Hexachlorobutadiene (87-68-3)	625	10
Hexachlorocyclopentadiene (77-47-4)	625	10
Hexachloroethane (67-72-1)	625	20
Indeno (1,2,3-cd) Pyrene (193-39-5)	625	20
Isophorone (78-59-1)	625	10
Naphthalene (91-20-3)	625	10
Nitrobenzene (98-95-3)	625	10
N-Nitrosodimethylamine (62-75-9)	625	50
N-Nitrosodi-N-Propylamine (621-64-7)	625	20
N-Nitrosodiphenylamine (86-30-6)	625	20
Perylene (198-55-0) *	625	10
Phenanthrene (85-01-8) *	625	10
Pyrene (129-00-0)	625	10
1,2,4-Trichlorobenzene (120-82-1)	625	10
GC/MS Fraction – Pesticides and PCBs		QL µg/l
Aldrin (309-00-2) *	608	0.05
α-BHC (319-84-6)	608	0.05
β-BHC (319-85-7)	608	0.05
γ-BHC (58-89-9)	608	0.05
δ-BHC (319-86-8)	608	0.05
Chlordane (57-74-9) *	608	0.2
4,4'-DDT (50-29-3) *	608	0.1
4,4'-DDE (72-55-9) *	608	0.1
4,4' DDD (72-54-8) *	608	0.1
Dieldrin (60-57-1) *	608	0.1
α-Endosulfan (115-29-7)	608	0.1
β-Endosulfan (115-29-7)	608	0.1

Pollutant & CAS No. (if available)	Analytical Protocol as EPA Part 136 methods or Standard Methods	Detection or Quantitation Level
Endosulfan Sulfate (1031-07-8)	608	0.1
Endrin (72-20-8) *	608	0.1
Endrin Aldehyde (7421-83-4)	608	0.1
Heptachlor (76-44-8) *	608	0.05
Heptachlor Epoxide (1024-57-3)	608	0.05
PCB-1242 (53469-21-8) *	608	1.0
PCB-1254 (11097-69-1) *	608	1.0
PCB-1221 (11104-28-2) *	608	1.0
PCB-1232 (11141-16-5) *	608	1.0
PCB-1248 (12672-29-6) *	608	1.0
PCB-1260 (11096-82-5) *	608	1.0
PCB-1016 (12674-11-2) *	608	1.0
Toxaphene (8001-35-2) *	608	5.0

*** Persistent, Bioaccumulative and Toxic (PBT) Chemicals of Concern**

This table is a list of all priority pollutants and also includes PBT chemicals of concern indicated with an asterisk. It includes PCBs and pesticides that are not required to be tested for in the treatment efficiency study analysis unless they are used on the refinery site. This table shall not be used as a reference for the human health characterization study since not all of the pollutant parameters are listed and more stringent detection limits need to be met for some parameters as per Permit Condition S.15.